

Claims 1-35 remain pending.

The Section 112 Rejection

The examiner has rejected claims 1-37 under 35 USC § 112 for failure to particularly point out and distinctly claim the invention.

It is respectfully submitted that the examiner may have misunderstood the meaning of the claimed "solution of nanoparticles" recited in claim 1. This element provides that a solution of nanoparticles exist in the solvent.

The composition of the nanoparticles is not crucial to the claimed invention. Rather, what is important is that the nanoparticles can exist as nanoparticles in the solvent. Examples of TiO_2 and SiO_2 are given in the description.

Further, applicants have deleted from claim 1 the language "in which the nanoparticles are soluble." This amendment is believed to clarify the meaning of the claim.

Thus, applicants respectfully assert that the present claims satisfy Section 112.

The Section 103 Rejection

The examiner rejected claims 1-37 under 35 USC § 103(a) as being obvious over U.S. Patent No. 4,234,350 to Suzor.

The examiner rejected claims 1-37 under 35 USC § 103(a) as being obvious over Schroder or Fessi or Wunderlich or Wong or Spenleuhauer or Subramaniam or Maidra.

The examiner asserts that claim 1 encompasses a method of dissolving common table sugar or salt, having minute impurities, in water.

Applicants submit that particles of salt and sugar as commonly known are too large to be described as nanoparticles. As is well-known in the art of colloid chemistry, with which the present application is concerned, and as is discussed in the description at for example page 6, lines 15-18, nanoparticle dimensions are typically on the order of 1-100 nm, as their name would suggest. See also the Abstract of Subramaniam or Maidra. In contrast, salt and sugar particles are typically several orders of magnitude larger than this.

Furthermore, when salt or sugar are added to water, the salt or sugar no longer exist as particles (as recited in claim 1) but rather as individual molecules. Therefore, a skilled person would appreciate that present claim 1 does not encompass a salt or sugar solution.

In regard to the examiner's objection to claim 24, applicants point out that the term "solution" in colloid chemistry would be understood by a skilled person to mean a colloidal solution. Attached is a collection of articles which refer to a colloidal solution merely as a solution, and likewise that refer to a colloidal solvent as a solvent. In addition, the examiner is referred to Fessi (col. 2, lines 26-61, and in particular lines 53-55) and Maidra (col. 2, lines 14-19; col. 4, lines 56-59). These documents refer to "the solution", meaning a solution containing nanoparticles, and to substances which are soluble in oil to produce nanoparticles.

Thus, applicants assert that the phrase "a solution of nanoparticles" would be readily understood by a person skilled in the art.

In light of the above arguments, claim 1 is clearly defined and does not have such a broad scope as to encompass the alleged solutions containing impure sugar or salt.

The pending claims are not obvious in view of Suzor, which discloses a process for the purification of a sugar solution. Suzor does not describe nanoparticles, or a solution of nanoparticles.

The examiner states that it would be obvious to one of ordinary skill in the art to conduct the Suzor process by dissolving nanoparticles of sugar in water and then separating impurities. The field of purifying sugar solutions and that of colloid chemistry are so remote that there would be no reason for the skilled person to assume that a process for purifying sugar could be directly applied to a mixture containing nanoparticles.

The examiner also makes an argument that Schroder, Fessi, Wunderlich, Wong, Spenleuhauer, Subramaniam and Maidra each disclose dissolving or dispersing nanoparticles in solvent, that the difference between the present claims and the references is the recitation of removal of the said other material, and that it would be obvious to one of ordinary skill in the art to remove impurities from the solutions of the prior art.

Each of the prior art documents discloses a method of preparing nanoparticles by adding a substance to a solvent. The present invention is concerned with the preparation of nanoparticles from a mixture of nanoparticles with another material. Although in conventional chemistry involving soluble substances the removal of insoluble impurities is commonly known and easily implemented, the field of colloid

chemistry calls for different techniques which are specialised and can by no means be inferred from the documents cited by the examiner.

The present claims recite methods for such purification which are not taught or suggested by the cited documents.

The applicant therefore submits that claims 1-35 are unobvious over the prior art.

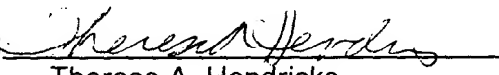
In view of the foregoing amendments and remarks, Applicant respectfully requests the reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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Dated: May 14, 2002

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MARKED UP CLAIMS

1. A method for preparing nanoparticles for use, from a mixture of nanoparticles with another material, the method comprising washing the mixture with a solvent [in which the nanoparticles are soluble] to remove the said other material and form a solution of nanoparticles in the solvent.